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engines with HC+NO_x FELs below 12.1 g/kW-hr. All early credits for Class II engines shall be calculated against a HC+NO_x level of 18.0 g/kW-hr.

(3) Beginning with the 2000 model year and prior to the applicable date listed in paragraph (a) of this section for Class III engines, a manufacturer may bank early credits for all Class III engines with HC+NO_x FELs below 72 g/kW-hr. All early credits for Class III engines shall be calculated against a HC+NO_x level of 238 g/kW-hr.

(4) Beginning with the 2000 model year and prior to the applicable date listed in paragraph (a) of this section for Class IV engines, a manufacturer may bank early credits for all Class IV engines with HC+NO_x FELs below 72 g/kW-hr. All early credits for Class IV engines shall be calculated against a HC+NO_x level of 196 g/kW-hr.

(5) Beginning with the 2000 model year and prior to the applicable date listed in paragraph (a) of this section for Class V engines, a manufacturer may bank early credits for all Class V engines with HC+NO_x FELs below 87 g/kW-hr. All early credits for Class V engines shall be calculated against a HC+NO_x level of 143 g/kW-hr.

(6) Engines certified under the early banking provisions of this paragraph are subject to all of the requirements of this part applicable to Phase 2 engines.

(c) A manufacturer may bank actual credits only after the end of the model year and after EPA has reviewed the manufacturer's end-of-year reports. During the model year and before submittal of the end-of-year report, credits originally designated in the certification process for banking will be considered reserved and may be redesignated for trading or averaging in the end-of-year report and final report.

(d) Credits declared for banking from the previous model year that have not been reviewed by EPA may be used in averaging or trading transactions. However, such credits may be revoked at a later time following EPA review of the end-of-year report or any subsequent audit actions.

[64 FR 15239, Mar. 30, 1999, as amended at 65 FR 24308, Apr. 25, 2000; 69 FR 1834, Jan. 12, 2004]

§ 90.206 Trading.

(a) An engine manufacturer may exchange emission credits with other engine manufacturers in trading, subject to the trading restriction specified in § 90.207(c)(2).

(b) Credits for trading can be obtained from credits banked in previous model years or credits generated during the model year of the trading transaction.

(c) Traded credits can be used for averaging, banking, or further trading transactions, subject to § 90.205(a).

(d) Traded credits are subject to the limitations on use for past model years, as set forth in § 90.204(c).

(e) In the event of a negative credit balance resulting from a transaction, both the buyer and the seller are liable, except in cases involving fraud. Certificates of all engine families participating in a negative trade may be voided *ab initio* pursuant to § 90.123.

[64 FR 15239, Mar. 30, 1999, as amended at 65 FR 24309, Apr. 25, 2000; 69 FR 1834, Jan. 12, 2004]

§ 90.207 Credit calculation and manufacturer compliance with emission standards.

(a) For each engine family, HC+NO_x [NMHC+NO_x] certification emission credits (positive or negative) are to be calculated according to the following equation and rounded to the nearest gram. Consistent units are to be used throughout the equation.

$$\text{Credits} = \text{Production} \times (\text{Standard} - \text{FEL}) \times \text{Power} \times \text{Useful life} \times \text{Load Factor}$$

Where:

Production = eligible production as defined in this part. Annual production projections are used to project credit availability for initial certification. Eligible production volume is used in determining actual credits for end-of-year compliance determination.

Standard = the current and applicable Small SI engine HC+NO_x (NMHC+NO_x) emission standard in grams per kilowatt hour as determined in § 90.103 or, for early credits, the applicable emission level as specified in § 90.205(b).

FEL = the family emission limit for the engine family in grams per kilowatt hour.
Power = the maximum modal power of the certification test engine, in kilowatts, as

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calculated from the applicable federal test procedure as described in this part.
Useful Life = the useful life in hours corresponding to the useful life category for which the engine family was certified.

Load Factor = 47 percent (i.e., 0.47) for Test Cycle A and Test Cycle B, and 85 percent (i.e., 0.85) for Test Cycle C. For approved alternate test procedures, the load factor must be calculated according to the following formula:

$$\sum_{i=1}^n (\%MTT \text{ mode}_i) \times (\%MTS \text{ mode}_i) \times (WF \text{ mode}_i)$$

Where:

%MTT mode_i = percent of the maximum FTP torque for mode i.

%MTS mode_i = percent of the maximum FTP engine rotational speed for mode i.

WF mode_i = the weighting factor for mode i.

(b) Manufacturer compliance with the emission standards is determined on a corporate average basis at the end of each model year. A manufacturer is in compliance when the sum of positive and negative emission credits it holds is greater than or equal to zero, except that the sum of positive and negative credits may be less than zero as allowed under paragraph (c) of this section.

(c)(1) If, as a result of production line testing as required in subpart H of this part, an engine family is determined to be in noncompliance pursuant to § 90.710, the manufacturer may raise its FEL for past and future production as necessary. Further, a manufacturer may carry a negative credit balance (known also as a credit deficit) for the subject class and model year and for the next three model years. The credit deficit may be no larger than that created by the nonconforming family. If the credit deficit still exists after the model year following the model year in which the nonconformity occurred, the manufacturer must obtain and apply credits to offset the remaining credit deficit at a rate of 1.2 grams for each gram of deficit within the next two model years. The provisions of this paragraph are subject to the limitations in paragraph (d) of this section.

(c)(2) For model years 2004 through 2007, an engine manufacturer who certifies at least one Class V engine family in a given model year may carry forward a credit deficit for four model years, but must not carry such deficit

into the fifth year, provided the deficit is attributable to negative credits from its Class V engine families, subject to the following provisions:

(i) Credit deficits are permitted for model years 2004 through 2007 but cannot occur for more than two consecutive model years for a given manufacturer;

(ii)(A) If an engine manufacturer calculates that it has a credit deficit for a given model year, it must obtain sufficient credits from engine families produced by itself or another manufacturer in a model year no later than the fourth model year following the model year for which it calculated the credit deficit. (Example: if a manufacturer calculates that it has a credit deficit for the 2004 model year, it must obtain sufficient credits to offset that deficit from its own production or that of other manufacturers' 2008 or earlier model year engine families.);

(B) An engine manufacturer carrying the deficit into the first model year following the year in which it was generated must generate or obtain credits to offset that deficit and apply them to the deficit at a rate of 1:1. An engine manufacturer carrying the deficit into the second and third model years must generate or obtain credits to offset that deficit and apply them to the deficit at a rate of 1.1:1 (i.e., deficits carried into the second and third model year must be repaid with credits equal to 110 percent of the deficit). Deficits carried into the fourth model year must be offset by credits at a rate of 1.2:1 (i.e., 120 percent of the deficit);

(iii) An engine manufacturer who has a credit deficit may use credits from any class of spark-ignition nonroad engines at or below 19 kilowatts generated or obtained through averaging,

banking or trading to offset the credit deficit; and,

(iv) An engine manufacturer must not bank credits for future use or trade credits to another engine manufacturer during a model year in which it has generated a deficit or into which it has carried a deficit.

(d) Regulations elsewhere in this part notwithstanding, if an engine manufacturer experiences two or more production line testing failures pursuant to the regulations in subpart H of this part in a given model year, the manufacturer may raise the FEL of previously produced engines only to the extent that such engines represent no more than 10 percent of the manufacturer's total eligible production for that model year, as determined on the date when the FEL is adjusted. For any additional engine families determined to be in noncompliance, the manufacturer must conduct offsetting projects approved in advance by the Administrator.

(e) If, as a result of production line testing under this subpart, a manufacturer desires to lower its FEL it may do so subject to § 90.708(c).

(f) Except as allowed at paragraph (c) of this section, when a manufacturer is not in compliance with the applicable emission standard by the date 270 days after the end of the model year, considering all credit calculations and transactions completed by then, the manufacturer will be in violation of the regulations in this part and EPA may, pursuant to § 90.123, void *ab initio* the certificates of engine families for which the manufacturer has not obtained sufficient positive emission credits.

(g) Credit deficits. (1) Manufacturers must offset any deficits for a given model year by the reporting deadline for the fourth model year following the model year in which the deficits were generated as required in paragraph (c)(2) of this section. Manufacturers may offset deficits by generating credits or acquiring credits generated by another manufacturer.

(2)(i) Failure to meet the requirements of paragraph (c)(2) of this section within the required timeframe for offsetting deficits will be considered to be a failure to satisfy the conditions

upon which the certificate(s) was issued and the individual noncomplying engines not covered by the certificate must be determined according to this section.

(ii) If deficits are not offset within the specified time period, the number of engines which could not be covered in the calculation to show compliance with the fleet average HC+NO_x standard in the model year in which the deficit occurred and thus are not covered by the certificate must be calculated using the methodology described in paragraph (g)(2)(iii) of this section.

(iii) EPA will determine the engines for which the condition on the certificate was not satisfied by designating engines in the Class V engine family with the highest HC+NO_x FELs first and continuing progressively downward through the Class V engine families until a number of engines having a credit need, as calculated under paragraph (a) of this section, equal to the remaining deficit is reached. If this calculation determines that only a portion of engines in a Class V engine family contribute to the deficit situation, then EPA will designate a subset of actual engines in that engine family as not covered by the certificate, starting with the last engine produced and counting backwards. EPA may request additional information from the manufacturer that would help identify the actual engine not covered by the certificate.

(iv) In determining the engine count, EPA will calculate the mass of credits based on the factors identified in paragraph (a) of this section.

(3) If a manufacturer is purchased by, merges with or otherwise combines with another manufacturer, the manufacturer continues to be responsible for offsetting any deficits outstanding within the required time period. Any failure to offset the deficits will be considered to be a violation of paragraph (g)(1) of this section and may subject the manufacturer to an enforcement action for sale of engines not covered by a certificate, pursuant to paragraph (g)(2) of this section.

(4) If a manufacturer that has a deficit ceases production of handheld engines, the manufacturer will be considered immediately in violation of paragraph (g)(1) of this section and may be subject to an enforcement action for sale of engines not covered by a certificate, pursuant to paragraph (g)(2) of this section.

(5) For purposes of calculating the statute of limitations, a violation of the requirements of paragraph (g)(1) of this section, a failure to satisfy the conditions upon which a certificate(s) was issued and hence a sale of engines not covered by the certificate, all occur upon the expiration of the deadline for offsetting deficits specified in paragraph (g)(1) of this section.

[64 FR 15239, Mar. 30, 1999; 64 FR 16526, Apr. 5, 1999, as amended at 65 FR 24309, Apr. 25, 2000; 69 FR 1834, Jan. 12, 2004]

§ 90.208 Certification.

(a) In the application for certification a manufacturer must:

(1) Submit a statement that the engines for which certification is requested will not, to the best of the manufacturer's belief, cause the manufacturer to be in noncompliance under § 90.207(b) when all credits are calculated for the manufacturer's engine families.

(2) Declare an FEL for each engine family for HC+NO_x (NMHC+NO_x). The FEL must have the same number of significant digits as the emission standard.

(3) Indicate the projected number of credits generated/needed for this family; the projected applicable eligible annual production volume, and the values required to calculate credits as given in § 90.207.

(4) Submit calculations in accordance with § 90.207 of projected emission credits (positive or negative) based on annual production projections for each family.

(5) (i) If the engine family is projected to have negative emission credits, state specifically the source (manufacturer/engine family or reserved) of the credits necessary to offset the credit deficit according to projected annual production.

(ii) If the engine family is projected to generate credits, state specifically

(manufacturer/engine family or reserved) where the projected annual credits will be applied.

(iii) The manufacturer may supply the information required by this section in the form of a spreadsheet detailing the manufacturer's annual production plans and the credits generated or consumed by each engine family.

(b) All certificates issued are conditional upon manufacturer compliance with the provisions of this subpart both during and after the model year of production.

(c) Failure to comply with all provisions of this subpart will be considered to be a failure to satisfy the conditions upon which the certificate was issued, and the certificate may be determined to be void *ab initio* pursuant to § 90.123.

(d) The manufacturer bears the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied or waived.

(e) Projected credits based on information supplied in the certification application may be used to obtain a certificate of conformity. However, any such credits may be revoked based on review of end-of-year reports, follow-up audits, and any other verification steps considered appropriate by the Administrator.

§ 90.209 Maintenance of records.

(a) The manufacturer must establish, maintain, and retain the following adequately organized and indexed records for each engine family:

(1) EPA engine family identification code;

(2) Family Emission Limit (FEL) or FELs where FEL changes have been implemented during the model year;

(3) Maximum modal power for the certification test engine;

(4) Projected production volume for the model year; and

(5) Records appropriate to establish the quantities of engines that constitute eligible production as defined in § 90.3 for each FEL.

(b) Any manufacturer producing an engine family participating in trading reserved credits must maintain the following records on an annual basis for each such engine family:

(1) The engine family;